DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
THE UNIVERSITY OF TEXAS AT ARLINGTON

SYSTEM REQUIREMENTS SPECIFICATION
CSE 4316: SENIOR DESIGN I
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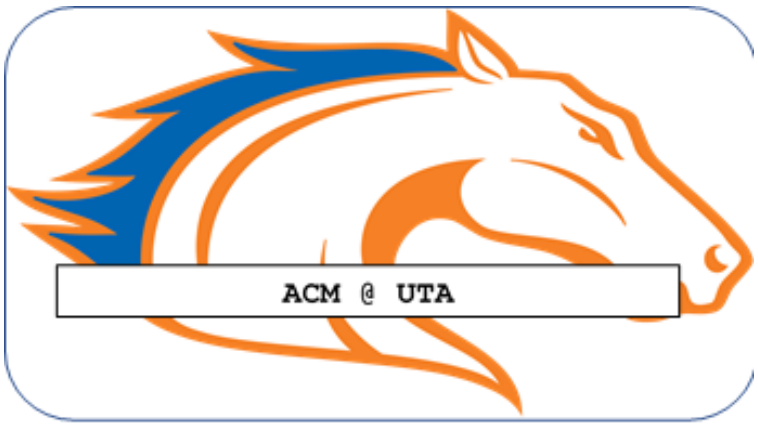

TEAM 5
ACM'S WEB

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1 Product Concept

This section describes the purpose, use and intended user audience for the product. ACM's UTA webpage is a system that performs the task of being the official website for ACM's UTA chapter. Users of this product will be able to access information about their memberships, the chapter events, workshops, etc

1.1 Purpose and Use

The product should display and keep track of all the events, workshops and activities hosted by the organization's local chapter. It should do this by taking into account the user's membership/officer privilege.

1.2 Intended Audience

The intended audience for this product is anyone who wishes to be actively informed about the organization's UTA chapter. This includes chapter officers, student members, university students, etc.

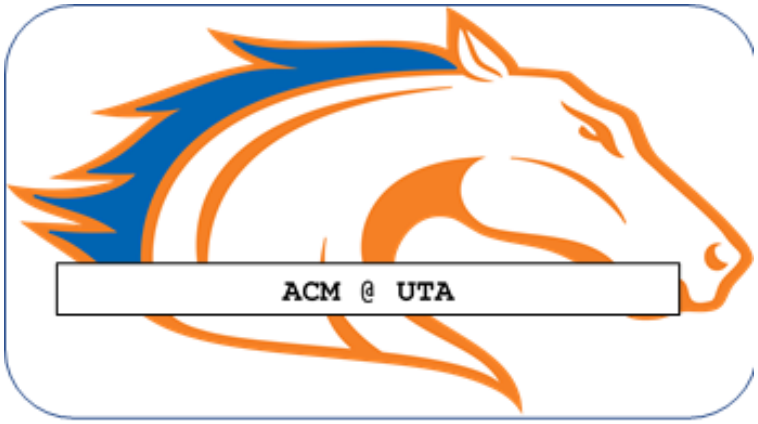

Figure 1: Team Logo

2 Product Description

This section provides the reader with an overview of the web application. The primary operational aspects of the product, from the perspective of end users, maintainers and administrators, are defined here. The key features and functions found in the product, as well as critical user interactions and user interfaces are described in detail.

2.1 Features & Functions

The product will be the official website for UTA's ACM Chapter. It will be a one-stop-shop for all things related to the organization's UTA Chapter. Here, all users will be able to see all events hosted by ACM in the past, present and foreseeable future. It will provide info about current ACM Officers, Sponsors, benefits of being a member, etc. It will be a place where users can join the chapter and have different privileges related to their membership status. They can sign up for emails to find out the current happenings in the organization,etc. The ACM Chapter at UTA is a slightly different membership to the National Organization membership, so the users may not be able to find out the national benefits of the membership, but most other things will be made possible by the website.

2.2 External Inputs & Outputs

The inputs will be user information should the users join the organization. The output will be different pages related to current happenings in the organization that the users can navigate based on their membership status.

2.3 Product Interfaces

The end users will see a finished product and a very high level view of the we application, the officers, depending on the office they hold, will be able to see everything the users see plus some user data. The administrator/ maintainer/webmaster will see to the low level details of the product.

3 Customer Requirements

This section describes the two main customer requirements given by the customer. They specify the two main tasks the website should carry out. There is a specific section for future requirements further in this document.

3.1 Information Display

3.1.1 Description

The website should display information about current events hosted by the organization. It should aslo display a page of past events and foreseeable future events. It should provide all info about the organization to any user of the website.

3.1.2 Source

Customer

3.1.3 Constraints

Certain information is displayed only according to membership status as described in the next requirement.

3.1.4 Standards

N/A

3.1.5 Priority

Critical

3.2 Membership and subscription creation/destruction

3.2.1 Description

The website should offer users the option to gain more privileges by creating an account(paying/non-paying) on the website. It should also offer the option to cancel their account.

3.2.2 Source

Customer

3.2.3 Constraints

Protect user privacy and only display info based on membership status.

3.2.4 Standards

N/A

3.2.5 Priority

Critical

4 Packaging Requirements

Our product is a web application and is entirely online. The deliverable, therefore, is intangible and cannot be packaged. The deliverable will be the source code with supporting documents which will help with the maintenance of the product in the long run.

4.1 Source Code and supporting Documents

4.1.1 Description

The source code and supporting documents will be packaged and handed over in a secure way which will be decided by the customer towards the end of the development cycle.

4.1.2 Source

Customer Preference

4.1.3 Constraints

Set by the customer towards the end of the development cycle.

4.1.4 Standards

N/A

4.1.5 Priority

High

5 Performance Requirements

The performance of the web application should meet the requirements acceptable for an ACM Organization chapter. The website should be adaptable to different screens and should not be easily manipulated by user inputs. This section may be updated later based on customer demand.

5.1 Secure and reliable performance

5.1.1 Description

Should be a secure device that adapts well to screens. Should be easy to use for the average user.

5.1.2 Source

Customer, ACM Guidelines

5.1.3 Constraints

As described by ACM Guidelines

5.1.4 Standards

N/A

5.1.5 Priority

High

6 Safety Requirements

Our product is a web application and entirely online. There is no physical product whatsoever attached to it. Therefore, the safety requirements for the physical aspect of the product are non-existent. However, the following are some safety requirements related to the lab used to develop the product.

6.1 Laboratory equipment lockout/tagout (LOTO) procedures

6.1.1 Description

Any fabrication equipment provided used in the development of the project shall be used in accordance with OSHA standard LOTO procedures. Locks and tags are installed on all equipment items that present use hazards, and ONLY the course instructor or designated teaching assistants may remove a lock. All locks will be immediately replaced once the equipment is no longer in use.

6.1.2 Source

CSE Senior Design laboratory policy

6.1.3 Constraints

Equipment usage, due to lock removal policies, will be limited to availability of the course instructor and designed teaching assistants.

6.1.4 Standards

Occupational Safety and Health Standards 1910.147 - The control of hazardous energy (lockout/tagout).

6.1.5 Priority

Critical

6.2 National Electric Code (NEC) wiring compliance

6.2.1 Description

Any electrical wiring must be completed in compliance with all requirements specified in the National Electric Code. This includes wire runs, insulation, grounding, enclosures, over-current protection, and all other specifications.

6.2.2 Source

CSE Senior Design laboratory policy

6.2.3 Constraints

High voltage power sources, as defined in NFPA 70, will be avoided as much as possible in order to minimize potential hazards.

6.2.4 Standards

NFPA 70

6.2.5 Priority

Critical

6.3 RIA robotic manipulator safety standards

6.3.1 Description

Robotic manipulators, if used, will either housed in a compliant lockout cell with all required safety interlocks, or certified as a "collaborative" unit from the manufacturer.

6.3.2 SOURCE

CSE Senior Design laboratory policy

6.3.3 CONSTRAINTS

Collaborative robotic manipulators will be preferred over non-collaborative units in order to minimize potential hazards. Sourcing and use of any required safety interlock mechanisms will be the responsibility of the engineering team.

6.3.4 STANDARDS

ANSI/RIA R15.06-2012 American National Standard for Industrial Robots and Robot Systems, RIA TR15.606-2016 Collaborative Robots

6.3.5 PRIORITY

Critical

7 Maintenance & Support Requirements

The maintenance will be done by the webmaster of the organization when the product is handed over. There will be a manual that will keep track of the original product with the updated modifications done to it, if any, by the previous webmaster.

7.1 Manual for the webmaster

7.1.1 Description

The manual will contain the current source code explained in detail and possible bugs in the system. It would also detail each and every function the website provides and most importantly, a section on how to use the manual.

7.1.2 Source

Several Software development regulations

7.1.3 Constraints

Not more than 100 pages. May be updated in the future.

7.1.4 Standards

N/A

7.1.5 Priority

High

8 Other Requirements

The website should be user intuitive and adaptable to various platforms. More requirements will be added during the testing phase to facilitate better results based on user recommendations.

8.1 User intuitive

8.1.1 Description

The website should be easy to navigate for the average user. It should be easily modifiable if needed to facilitate a better experience for future users.

8.1.2 Source

Users, Customers, etc

8.1.3 Constraints

The modifications must be consistent throughout the website.

8.1.4 Standards

N/A

8.1.5 Priority

Moderate

9 Future Items

An option for online payment.

9.1 Online payment

9.1.1 Description

An option to pay online using credit/debit cards for new, existing members to begin or renew their membership without having to pay in person at the organization office for convenience and automation purposes.

9.1.2 Source

ACM Chapter

9.1.3 Constraints

Various tax related constraints that will be decided by ACM Officers.

9.1.4 Standards

N/A

9.1.5 Priority

Moderate(Future), Low(Now)